

Application Serial No.:
10/035,659

Attorney Docket No.:
SP01-302

Listing of Claims

1-21. (Canceled)

22. (Currently Amended) A method of forming an optical fiber comprising the steps of:

providing ~~at least two fiber preforms, including at least two sacrificial preforms,~~ with end surfaces having a flatness of 5 μm or better,

bonding the end surfaces of at least two the optical fiber preforms and the sacrificial preforms to each other without an adhesive and at a temperature lower than 300°C to provide a blank, wherein the bonding strength exceeds 150 psi; and

drawing optical fiber from the lower sacrificial preform of the blank.

23. (Original) The method of claim 22, further comprising a step of providing termination groups on the end surfaces of the preforms.

24. (Original) The method of claim 23, further comprising the step of providing hydroxyl termination groups on the end surfaces of the preforms.

25. (Original) The method of claim 24, further comprising the step of contacting the end surfaces of the preforms with an acid.

26. (Original) The method of claim 25, further comprising the step of providing termination groups on the end surfaces of the preforms selected from the group consisting of -OH, $\equiv\text{Si-OH}$, $=\text{Si}(\text{OH})_2$, $-\text{Si}(\text{OH})_3$ and $-\text{O-Si}(\text{OH})_3$, and combinations thereof.

27. (Original) The method of claim 26, further including the step of contacting the end surfaces of the preforms with a solution having a pH greater than 8.

28. (Original) The method of claim 27, wherein the solution includes ammonium hydroxide.

29. (Original) The method of claim 26, further comprising the step of providing absorbed water molecules and adsorbed hydroxyl groups on the end surfaces of the preform.

30. (Original) The method of claim 29, further comprising the step of heating the end surfaces such that the adsorbed hydroxyl groups remain on the end surfaces of the preforms.

31. (Original) The method of claim 29, further comprising the step of forming a covalent bond between the preforms.

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